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REMARKS

I. Claim Rejections:

Claims 1-10 and 16 remain in this application. Claims 11-15 were previously canceled.

II. Rejections Under 35 U.S.C. 103:

A. Issues Under 35 U.S.C. 103(c):

Claims 1-6 remain rejected under 35 U.S.C. 103(a) as being obvious over Davison (U.S. Pub. 2004/0266064) (hereinafter "Davison") in view of Hanson et al. (U.S. Pat. 6,962,670) (hereinafter "Hanson").

Claims 7-10 were rejected under 35 U.S.C. 103(a) as being obvious over Koning et al. (U.S. Pub. 2005/0116299) (hereinafter "Koning") in view of Hanson.

Reconsideration is respectfully requested.

As set forth in the Response of December 18, 2006 ("the December Response"), under 35 U.S.C. 103(c), the above rejections of claims 1-6 and of claims 7-10, respectively, should be withdrawn.

Subject matter that qualifies as prior art only under 35 U.S.C. 102(e) does not preclude patentability if the reference and the application were, at the time the application was made, owned by the same person or subject to an obligation of assignment to the same person (35 U.S.C. 103(c)).

Davison qualifies as prior art under 35 U.S.C. 102(e), and not under the other sections of 35 U.S.C. 102. Davison is assigned to the Intel Corporation (as recorded on December 8, 2003 at Reel 014790, Frame 0846). The present patent application is also assigned to the Intel Corporation (as recorded on December 3, 2003 at Reel 014790, Frame 0521), and, under the inventor's employment agreement, was subject to an obligation of assignment to the Intel Corporation

Koning qualifies as prior art under 35 U.S.C. 102(e), and not under the other sections of 35 U.S.C. 102. Koning is assigned to the Intel Corporation (as recorded on November 4, 2004 at Reel 015338, Frame 0071). The present patent application is also assigned to the Intel Corporation (as recorded on December 3, 2003 at Reel 014790, Frame 0521), and under the inventor's employment agreement, was subject to an obligation of assignment to the Intel Corporation.

The final Office Action suggests that the fact that the assignment dates of both Davison and Koning may post-date the filing date of the invention precludes a withdrawal of the references under 35 USC 103(c). In this respect, the final Office Action appears to be ignoring the language of 35 USC 103(c) which precludes a reference that qualifies as prior art only under 102(e), if the reference and the application were, "at the time the application was made, owned by the same person or subject to an obligation of assignment to the same person." As stated in the December Response, at the time the invention was made, both Davison and Koning were, under the inventor's employment agreement, subject to an obligation of assignment to the Intel Corporation.

In this respect, reference is made to the MPEP at Section 706.02(I)(2)(II), which states in relevant part:

Applications and references (whether patents, patent applications, patent application publications, etc.) will be considered by the examiner to be owned by, or subject to an obligation of assignment to the same person, at the time the invention was made, if the applicant(s) or an attorney or agent of record makes a statement to the effect that the application and the reference were, at the time the invention was made, owned by, or subject to an obligation of assignment to, the same person.

See "Guidelines Setting Forth a Modified Policy Concerning the Evidence of Common Ownership, or an Obligation of Assignment to the Same Person, as Required by 35 U.S.C. 103(c)," 1241 O.G. 96 (December 26, 2000). The applicant(s) or the representative(s) of record have the best knowledge of the ownership of their application(s) and reference(s), and their statement of such is sufficient evidence because of their paramount obligation of candor and good faith to the USPTO.

In light of the above, the Examiner is respectfully requested to reconsider and withdraw his rejection of the claims as obvious over Davison in view of Hanson, and over Koning in view of Hanson.

B. Arguments on the Merits:

Claims 1-10 were rejected under 35 U.S.C. 103(a) as being obvious over Resnick et al. (U.S. Pub. 2004/0224261) (hereinafter "Resnick") in view of Hanson.

Independent claims 1 and 7 both recite with specificity that the detected radiation is used to determine whether the trench has been successfully formed (claim 1) or whether maintenance on the tool should be performed (claim 7). Reconsideration is respectfully requested.

Independent claim 1 recites a method in which it may be determined: (1) whether a trench bottom is substantially free of fluorescent material-containing dielectric, and/or (2) whether the same trench bottom has more fluorescent material-containing dielectric than a threshold amount. Independent claim 7 recites a method in which it may be determined

whether a tool has fluorescent material-containing dielectric stuck to it and therefore should be maintained or not. Claim 1 thus does not involve measuring the thickness of a material, but rather involves detecting the presence/absence of a material. Similarly, claim 7 is not concerned with measuring the thickness of a material, but rather involves checking to see if a material is present.

There is no motivation to combine Resnick and Hanson to arrive at embodiments as set forth in independent claims 1 and 7.

Resnick discloses methods of using various templates that may be employed to form patterns in a substrate by way of pressure application and lithography. For example referring to Resnick's Fig. 1, and as described in paragraph [0016] in Resnick, a two step etch process may be performed, including a first etch step to create the partially etched patterned 115, and then a second etch step to create the substantially complete via-and-trench patterned layer 117. Resnick must perform the above two steps to create the final layer 117. Examiner erroneously refers to "claim 16" in Resnick to buttress the argument that Resnick "teaches further processing the patterning layer by wet or dry etches to remove excess material." First, claim 16 in Resnick has nothing to do with etching. Second, paragraph [0016] in Resnick, which the Examiner is presumably referring to, teaches a two step etch process as noted above, both of which steps are always necessary to create the desired pattern. Both steps remove material, period, and it would be misleading to characterize Resnick as teaching a removal of "excess" material. Resnick does not disclose or suggest the removal of material that is "excess" after each etch step. There is no indication in Resnick that excess material after each etch step is even a problem or a concern.

Hanson is concerned with making sure a thickness of material is uniform. The material is typically a layer used to make an article (Hanson, col. 3, lines 57-58), where the

presence of the material is desired to make sure the article structure is as desired, such as layers used to create a bottle (Hanson, col. 13, lines 15-19). Hanson in its broadest sense, teaches that, the addition of a known quantity of fluorophores to a material where the fluorophores are uniformly distributed within the material allows a thickness of the material to be measured.

There is no motivation to combine Resnick with Hanson. Each step in Resnick used to generate a new patterned layer comes with the understanding that the thicknesses of the various components of the patterned layers are a function of the process steps used to generate them. For example, at steps 150 and 160 in Resnick, pressure and radiation may be applied to one template, followed by removal of the template, to create the patterned resist layer 125. Thereafter, as noted above, a two step lithographic process may be effected to create the patterned layer 117. There is nothing in Resnick that suggests that any of the generated layers must have their thicknesses be determined. A person of ordinary skill would recognize that the various process parameters of Resnick would determined the thicknesses and configurations of the various patterns obtained. There is no recognition in Resnick of a need to detect and/or compensate for errors (presence of a material where the material should in principle not exist) in the processes performed. There is further no indication in Hanson that the disclosed process of using fluorophores may be employed to detect errors as noted above (that is, the presence or absence of a material). Nowhere in Resnick is there an indication that a presence vs. an absence of, and/or a detection of an exact thickness of, a material in a given region of the patterned layers is a concern. In earnest, the only motivation for such a combination comes from Applicant's own specification.

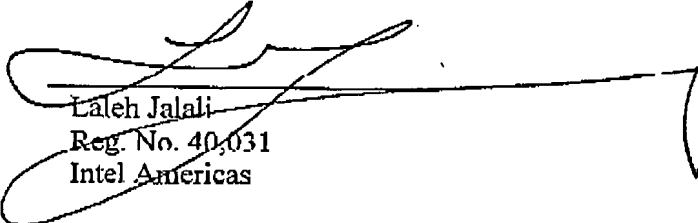
Examiner notes that "Resnick and Hanson are combinable because they are concerned with a similar technical field, namely, non-uniformity of layer thicknesses in laminate

structures." It is not exactly clear where Examiner gleans such a "concern" from Resnick. Resnick is concerned with creating microelectronic patterns using a dual damascene process. It is thus at best inaccurate to state that both Resnick and Hanson are concerned with a "similar technical field."

In view of the above, and further in view of all of the arguments previously set forth in the December Response, Applicant respectfully requests that Examiner reconsider and withdraw his rejections of the claims based on 35 USC 103(a).

Respectfully submitted,

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